

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

CLEANUP AND ABATEMENT ORDER NO. R5-2008-0704

FOR  
AUBURN VALLEY COMMUNITY SERVICES DISTRICT AND  
AUBURN COUNTRY CLUB, INC.  
WASTEWATER TREATMENT FACILITY  
PLACER COUNTY

This Order is issued to Auburn Valley Community Services District and the Auburn Country Club, Inc. (hereafter Discharger) based on provisions of California Water Code Section 13304, which authorizes the Regional Water Quality Control Board, Central Valley Region, (hereafter Regional Water Board) to issue a Cleanup and Abatement Order, and California Water Code section 13267, which authorizes the Regional Water Board to require the submittal of technical and monitoring reports.

The Assistant Executive Officer of the Regional Board finds, with respect to the Discharger's acts, or failure to act, includes the following:

1. The Discharger owns and operates the Auburn Valley wastewater treatment facility, which includes a domestic wastewater collection system and an activated sludge batch treatment plant with disposal via subsurface drip irrigation within three designated "no play" areas of the golf course.
2. The wastewater treatment facility is located approximately one mile west of the Grass Valley Highway on Lone Star Road in Section 2, T13N, R7E, MDB&M.
3. Currently the wastewater system services the clubhouse/bar/restaurant/maintenance building, 16 duplex units, and 98 single-family residences, which equates to approximately 130 Equivalent Dwelling Units (EDUs). At full build out, the wastewater system is designed to serve up to 170 EDUs, which includes 22 EDUs allocated to the Auburn Country Club, Inc.
4. On 1 March 2002, the Regional Water Board adopted Waste Discharge Requirements (WDRs) Order No. R5-2002-0030, which prescribes requirements for the collection and treatment of up to 60,000 gallons per day (gpd) of domestic wastewater.

#### **HISTORY OF VIOLATIONS**

5. On 4 March 2004, the Discharger was issued an NOV for the non-submittal of certain reports as required by the WDRs, which include a Best Practicable Treatment and Control (BPTC) Evaluation Workplan, a Background Groundwater Quality Study Report, and the 2003 Annual Monitoring Report.
6. In a 12 April 2004 letter, the Discharger's consultant stated that they had obtained authorization to complete the BPTC Workplan, the Background Groundwater Study Report and the Annual Monitoring Report for 2003. The letter stated that these reports were being

prepared. On 3 May 2004, Regional Water Board staff received the BPTC Workplan and the 2003 annual monitoring report. On 17 March 2005, Regional Water Board staff received the Background Groundwater Quality Study Report. Regional Water Board staff determined that the Background Groundwater Quality Report was inadequate as described in Finding No. 10.

7. On 28 July 2005, Regional Water Board staff received the BPTC report and in a letter dated 19 January 2006, determined it to be inadequate. The Regional Water Board staff letter requested that a revised BPTC report be submitted by 15 April 2006.
8. On 19 January 2006, the Discharger was issued a NOV for not complying with Discharge Specification No. B.12 and Groundwater Limitations No. D.1.a of the WDRs. The NOV was issued because self-monitoring reports from January 2004 through September 2005 showed that the average effluent Total Dissolved Solids (TDS) concentrations ranged from 510 to 820 mg/L, which is above the monthly average limit of 461 mg/L allowed by the WDRs. In addition, the NOV was issued because the monthly average turbidity measurements from April 2005 through September 2005 were consistently above the limit of 1.0 Nephelometric Turbidity Units (NTUs) allowed by the WDRs. Finally, the NOV was issued because quarterly groundwater monitoring reports showed that total coliform was consistently reported above the limits allowed by Groundwater Limitation No. D.1.a of the WDRs. The NOV requested the Discharger to submit a technical report by 15 April 2006 describing proposed measures to reduce the TDS and turbidity levels in the effluent to concentrations that comply with Discharge Specification No. B.12 of the WDRs and measures to be taken to reduce total coliform levels in the groundwater monitoring wells to comply with Groundwater Limitation No. D.1.a of the WDRs.
9. On 8 February 2006, following a site inspection, the Discharger was issued an NOV for the discharge of approximately 9,130 gallons of inadequately treated effluent to the subsurface disposal fields that occurred on 26 December 2005. The Discharger stated that the bypass resulted from heavy rains and extreme inflow/infiltration (I/I) that occurred on 21 and 22 December 2005. The NOV requested the Discharger to submit a workplan describing proposed measures to reduce the inflow/infiltration. The Discharger's schedule to complete the necessary repairs to industry standards was not to extend beyond 1 May 2008.
10. On 8 March 2006, Regional Water Board staff sent the Discharger a letter indicating that the 15 March 2005 Background Groundwater Quality Study Report was inadequate. In summary, the letter stated that groundwater quality data determinations should be based on groundwater data from upgradient monitoring wells because of the inconsistent metals results in the upgradient and downgradient monitoring wells. In addition, the letter stated that that upgradient monitoring wells H-1 and Q-1 were consistently dry and needed to be re-installed. The letter requested the submittal of the following reports: (a) a well evaluation report by 1 May 2006, (b) a report documenting repairs to the wells by 1 September 2006, (c) a report providing proposed measures to be taken to reduce the elevated coliform levels in the groundwater monitoring wells by 1 June 2006, (d) a

Groundwater Monitoring Well Installation Workplan and Sampling and Analysis Plan by 1 July 2006, and (e), a Groundwater Monitoring Well Installation Report by 1 November 2006. In addition, beginning in January 2007 and ending in March 2008, the Discharger was to conduct groundwater monitoring every other month from two newly installed upgradient wells and the seven existing wells. Finally, the Discharger was required to provide a revised Background Groundwater Quality Study Report by 1 May 2008. On 23 March 2006, the Discharger and their consultant met with Regional Water Board staff to discuss the letter.

11. On 5 June 2006, the Discharger submitted a response to Regional Water Board staff's 19 January 2006 letter. In summary, the Discharger stated that the initial step to decrease the TDS in the wastewater effluent was to disconnect the water softener at the Auburn Country Club from the wastewater system and perform water testing. The Discharger indicated that if the testing indicated compliance with the WDRs then no additional actions would be taken. However, if the testing indicated non-compliance with the WDRs then the individual households would be notified of a requirement to disconnect their water softeners or convert to a rental service with offsite brine disposal. In regards to the elevated turbidity, the Discharger stated that corrective measures had been taken which included the addition of filter media and additional control of the treatment plant solids inventory. However, the Discharger stated that the plant is not capable of consistently meeting the turbidity limit without the addition of at least a polymer filter. In regards to the coliform bacteria in the monitoring wells, the Discharger stated that possible sources included: (a) loose or defective well caps, (b) seepage through defects in the grout seal, (c) seepage through holes or cracks in the well casings, and (d) improper sampling techniques.
12. Because the Discharger did not submit certain reports as described in the 8 March 2006 letter (as described in Finding No. 10), on 15 December 2006, Regional Water Board staff issued an NOV. The NOV requested the Discharger to submit the following reports: (a) a Well Evaluation Report by 1 March 2007, (b) a report providing proposed measures to be taken to reduce the elevated total coliform levels in the groundwater monitoring wells to comply with the Groundwater Limitations of the WDRs by 1 March 2007, (c) a Groundwater Monitoring Well Installation Workplan and Sampling and Analysis Plan by 1 March 2007, and (e), a Groundwater Monitoring Well Installation Report by 1 August 2007. In addition, beginning in August 2007 and ending in October 2008, the Discharger was to conduct groundwater monitoring every other month from two newly installed upgradient wells and the other seven existing monitoring wells. Finally, the Discharger was required to provide a revised Background Groundwater Quality Study Report by 1 December 2008.
13. On 9 January 2007, Regional Water Board staff met with the Discharger and their consultant to discuss the 15 December 2006 NOV and other wastewater issues. The following was provided in a meeting summary letter sent to the Discharger on 17 January 2007.

- a. The Discharger indicated that they did not have the necessary funds available to continue with the inflow and infiltration repairs to the collection system and they are evaluating funding options. Regional Water Board staff indicated that a Loans and Grants Program is available at the State Water Resources Control Board.
  - b. The monthly self-monitoring reports from 2005 and 2006 show that the Discharger was not meeting effluent limits for TDS, total nitrogen and total coliform organisms required by Discharge Specification No. B.12 of the WDRs.
  - c. The Discharger indicated that the source of drinking water for the community was provided by groundwater supply wells. Regional Water Board staff requested that the Discharger provide copies of drinking water supply monitoring/analytical data for the last two years. The Discharger has not provided this information.
  - d. The Discharger indicated that the water softener at the Country Club was disconnected to evaluate TDS reduction from that source. The TDS concentrations in the effluent have not been reduced. The Discharger stated that there were no plans to set an ordinance for the removal of water softeners from individual homeowners.
  - e. The Discharger indicated that the entire sewer system had been video surveyed and has plans to line approximately 2,000 feet of sewer. On 7 February 2007, the Discharger provided copies of the video survey results from August and October 2006. Regional Water Board staff's review of the results show the following sewer line sections are in poor condition: (a) Manhole (MH) 1 to the cleanout, (b) MH 7 to MH 8, (c) MH 35 to MH 9, (d) MH 20 to MH 21, (e) MH 11 to MH 12, and the laterals to the main, and breaks and pipe separations along Auburn Valley Road. The video survey data indicates that the remaining sewer pipeline is in fair condition.
14. On 24 May 2007, following staff's review of monthly self-monitoring reports from January 2006 through January 2007, the Discharger was issued an NOV. In summary, the NOV was issued for the following: (a) for not including sampling results of the subsurface irrigation disposal areas in the monthly monitoring reports to determine soil water saturation; (b) for not including water supply sampling results; and (c) for the effluent applied to the subsurface application areas exceeding limits of BOD, total nitrogen, TSS, turbidity, total coliform, and TDS as specified in Discharge Specification No. B.12 of the WDRs. The NOV requested the Discharger to submit a technical report describing how the violations would be corrected, and how recurrence would be prevented. In addition the NOV requested the Discharger to either submit the delinquent sampling results for determining the soil water saturation within the subsurface disposal areas and results of the water supply samples as required by the MRP.
  15. In a 29 June 2007 response to the NOV, the Discharger indicated that the BOD, TSS, total nitrogen, and total coliform levels be resolved through operational procedures. The Discharger also stated that the turbidity issues will be addressed with a change in



Install a plug approximately 700 feet east of Manhole No. 1 and abandon the remainder of the upstream pipeline.

Phase II            Install a cured-in-place liner in the six-inch diameter mainline in Upper Valley Road/Estates Court and Viewridge Drive.  
Remove roots and epoxy pressure grout Manholes Nos. 23 and 31A.

18. On 23 February 2008, Regional Water Board staff received a copy of a proposed assessment notice for: (a) retrofitting the sewer line and laterals to reduce infow and infiltration, (b) retrofitting the groundwater monitoring wells to correct surface water infiltration problems, (c) replacing two of the dry groundwater monitoring wells, and (d) preparing and submitting reports. On 25 April 2008, the Auburn Valley Community passed measures associated with the proposed assessment notice.
19. As described in the Findings, the Discharger has been unable to: (a) comply with the timelines of the previous five NOV's issued since March 2004, (b) comply with BOD, total nitrogen, TSS, and TDS Discharge Specifications in the WDRs, or (c) comply with total coliform Groundwater Limitations. In addition, the wastewater collection system has inflow and infiltration problems that need to be addressed. This Order is necessary to provide formal, enforceable timelines to bring the facility into compliance.

### **REGULATORY CONSIDERATIONS**

20. The Water Quality Control Plan for the California Regional Water Quality Control Board, Central Valley Region, 4th Edition (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin.
21. Surface water drainage is to the Bear River. The designated beneficial uses of the Bear River, as stated in the Basin Plan, are municipal and domestic supply; agricultural supply; hydropower generation; water contact recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; migration of aquatic organisms; spawning, reproduction and/or early development; and wildlife habitat.
22. The beneficial uses of underlying groundwater, as stated in the Basin Plan, are municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
23. Section 13304(a) of the California Water Code provides that: *“Any person who has discharged or discharges waste into the waters of this state in violation of any waste discharge requirement or other order or prohibition issued by a Regional Water Board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the Regional Water Board, clean up the waste or*

*abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts. A cleanup and abatement order issued by the state board or a Regional Water Board may require the provision of, or payment for, uninterrupted replacement water service, which may include wellhead treatment, to each affected public water supplier or private well owner. Upon failure of any person to comply with the cleanup or abatement order, the Attorney General, at the request of the board, shall petition the superior court for that county for the issuance of an injunction requiring the person to comply with the order. In the suit, the court shall have jurisdiction to grant a prohibitory or mandatory injunction, either preliminary or permanent, as the facts may warrant.”*

24. Section 13267(b)(1) of the California Water Code provides that: *“In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.”*
25. The technical reports required by this Order are necessary to ensure compliance with this Cleanup and Abatement Order and WDRs Order No. R5-2002-0030, and to ensure the protection of the public health and safety and waters of the state. The Discharger owns and operates the facility that discharges waste subject to this Order.
26. The issuance of this Order is an enforcement action taken by a regulatory agency and is exempt from the provisions of the California Environmental Quality Act, pursuant to California Code of Regulations, title 14, section 15321(a)(2).
27. Any person affected by this action of the Regional Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with California Code of Regulations, title 23, section 2050 through 2068. The petition must be received by the State Water Board within 30 days of the date of the issuance of this Order. Copies of the law and regulations applicable to filing petitions are available at <http://www.waterboards.ca.gov/wqpetitions/index.html> and will be provided upon request.

**IT IS HEREBY ORDERED** that, pursuant to Sections 13304 and 13267 of the California Water Code, Auburn Valley Community Services District and Auburn Country Club, Inc. shall cleanup

and abate, forthwith, the wastewater treatment facility such that all the requirements prescribed in WDRs Order No.R5-2002-0030 are met.

“Forthwith” means as soon as is reasonably possible. Compliance with this requirement shall include, but not be limited to, completing the tasks listed below.

Any person signing a document submitted under this Order shall make the following certification: “I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my knowledge and on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.”

1. Effective **immediately**, the Discharger shall comply with the total nitrogen and total coliform organism limits in Discharge Specification No. B.12. of WDRs Order No. R5-2002-0030.
2. By **1 August 2008**, the Discharger shall submit and implement a technical report describing measures and a timeline to be taken to reduce the elevated coliform levels in the groundwater monitoring wells to comply with the Groundwater Limitations of the WDRs.
3. By **1 October 2008**, the Discharger shall provide a technical report that evaluates the effectiveness of the subsurface disposal system; especially in regard to the prevention of wastewater surfacing issues. If problems are identified, the report shall include timelines for any repairs and/or modifications to the disposal system.

#### Revenue Plan

4. By **1 August 2008**, the Discharger shall submit a Revenue Plan that describes the costs associated with implementation of all tasks in this Order. The plan must show whether the Discharger has necessary funds to implement all tasks. Should the Revenue Plan show that there are inadequate funds, the Discharger must include an implementation schedule that shows how the Discharger will raise the necessary funds.

#### Salinity Reduction

5. By **1 August 2008**, the Discharger shall submit a workplan for a *Salinity Source Reduction Study*. The study shall look at all aspects of the source water, the water softeners, and treatment methods to reduce saline waste discharged to the land application area(s).
6. By **1 August 2009**, the Discharger shall submit a *Salinity Source Reduction Report of Results* that quantifies the mass and concentration of salt constituents discharged in the effluent. The report shall compare concentrations both before and after the workplan for



the Salinity Source Reduction Study was implemented. If measurable difference has not been achieved, the report shall discuss the reasons why there has been no decrease and shall propose additional salinity reduction measures. The Salinity Source Reduction Study shall also satisfy the requirements of Health & Safety Code section 116786(c).

#### Inflow and Infiltration

7. By **1 July 2009**, the Discharger shall submit a *Collection System Improvement Report* documenting that the Discharger has made repairs/improvements to the collection system that were described in the Discharger's 15 November 2007 infiltration and inflow improvement study report (Finding No. 17 of this Order) or as modified by the Discharger's engineers to reduce I/I to industry standards.

#### Groundwater Monitoring

8. By **1 August 2008**, the Discharger shall submit a *Well Evaluation Report* documenting the condition of each of the groundwater monitoring wells and describing proposed repairs to ensure that surface water is not entering the wells.
9. By **1 August 2008**, the Discharger shall submit a *Groundwater Sampling and Analysis Plan (SAP)* to ensure that representative samples are being collected and analyzed in accordance with Monitoring and Reporting Program (MRP) No. R5-2002-0030. The SAP shall provide detailed instructions and procedures for proper purging and sampling of monitoring wells; equipment decontamination; sample handling, storage and shipment; and completing the chain of custody. The SAP shall be consistent with, and include the items listed in, the first section of Attachment A.
10. By **1 August 2008**, the Discharger shall submit a *Groundwater Monitoring Well Installation Workplan* describing the proposed re-installation of upgradient groundwater monitoring wells (Q-1 and H-1) to adequately characterize the groundwater quality upgradient of the disposal areas Q and H. Each of the monitoring wells shall be constructed to yield representative samples from the uppermost layer of the uppermost aquifer and to comply with applicable well standards. The workplan shall be consistent with, and include the items listed in, the first section of Attachment A.
11. By **1 October 2008**, the Discharger shall submit a *Groundwater Monitoring Well Installation Report* that describes the installation of groundwater monitoring wells and contains the items found in the second section of Attachment A.
12. Beginning in **1 October 2008**, the Discharger shall conduct quarterly groundwater monitoring from the two newly installed upgradient wells (H-1 and Q-1), and the other wells (C-1, C-2, C-3, H-2, H-3, Q-2, and Q-3). Groundwater samples shall be collected and analyzed in accordance with the MRP. Results of these sampling events shall be included as part of the quarterly groundwater monitoring reports as required by the MRP.

13. By **1 February 2011**, the Discharger shall submit a revised *Background Groundwater Quality Study Report* that includes (a) summary of the upgradient and downgradient monitoring data for each groundwater monitoring parameter/constituent identified in the MRP, the report shall present a summary of monitoring data, a calculation of the concentration in background monitoring well(s), and a comparison of background groundwater quality to that in wells used to monitor each of the three disposal fields. Determination of background quality shall be made using the methods described in Title 27, Section 20415(e)(10), and shall be based on data from the last eight quarterly groundwater monitoring events from the newly installed upgradient wells, and the other wells surrounding the three wastewater disposal fields, beginning with the **1 October 2008** sampling event.

#### Progress Reports

14. **Beginning 1 August 2008**, and by the first day of the second month following each calendar quarter (**i.e., by 1 February, 1 May, 1 August, and 1 November each year**), the Discharger shall submit a progress report describing the work completed to date regarding each of the reporting requirements described above

In addition to the above, the Discharger shall comply with existing WDRs Order No. R5-2002-0030 and all applicable provisions of the California Water Code that are not specifically referred to in this Order. As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all reports shall be prepared by, or under the supervision of, a California Registered Engineer or Professional Geologist and signed by the registered professional.

If the Discharger is unable to perform any activity or submit any document in compliance with the schedule set forth herein, or in compliance with any work schedule submitted pursuant to this Order and approved by the Assistant Executive Officer, the Discharger may request, in writing, an extension of the time specified. The extension request shall include justification for the delay. Any extension request shall be submitted as soon as a delay is recognized and prior to the compliance date. An extension may be denied in writing or granted by revision of this Order or by a letter from the Assistant Executive Officer.

If, in the opinion of the Assistant Executive Officer, the Discharger fails to comply with the provisions of this Order, the Assistant Executive Officer may refer this matter to the Attorney General for judicial enforcement or may issue a complaint for administrative civil liability.

Failure to comply with this Order may result in the assessment of an Administrative Civil Liability up to \$10,000 per day of violation pursuant to the California Water Code sections 13268, 13350 and/or 13385. The Regional Water Board reserves its right to take any enforcement actions authorized by law.

This Order is effective upon the date of signature.

Original Signed By

\_\_\_\_\_  
JACK E. DEL CONTE, Assistant Executive Officer

12 May 2008

\_\_\_\_\_  
(Date)

Attachment A: Requirements for Monitoring Well Installation Workplan and Monitoring Well  
Installation Report

gjc: 12-May-08



# California Regional Water Quality Control Board Central Valley Region



**Linda S. Adams**  
Secretary for  
Environmental Protection

**Karl E. Longley, ScD, P.E., Chair**

**Arnold  
Schwarzenegger**  
Governor

---

## Sacramento Main Office

11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114  
Phone (916) 464-3291 • FAX (916) 464-4645  
<http://www.waterboards.ca.gov/centralvalley>

## **CLEANUP AND ABATEMENT ORDER NO. R5-0028-0704 FOR AUBURN VALLEY COMMUNITY SERVICES DISTRICT AND AUBURN COUNTRY CLUB, INC. WASTEWATER TREATMENT FACILITY**

### **ATTACHMENT A REQUIREMENTS FOR MONITORING WELL INSTALLATION WORKPLANS AND MONITORING WELL INSTALLATION REPORTS**

Prior to installation of groundwater monitoring wells, the Discharger shall submit a workplan containing, at a minimum, the information listed in Section 1, below. Wells may be installed after Regional Water Board staff approve the workplan. Upon installation of the monitoring wells, the Discharger shall submit a well installation report which includes the information contained in Section 2, below. All workplans and reports must be prepared under the direction of, and signed by, a professional geologist or civil engineer licensed by the State of California.

#### **SECTION 1 - Monitoring Well Installation Workplan and Groundwater Sampling and Analysis Plan**

The monitoring well installation workplan shall contain the following minimum information:

**A. General Information:**

- Purpose of the well installation project
- Brief description of local geologic and hydrogeologic conditions
- Proposed monitoring well locations and rationale for well locations
- Topographic map showing facility location, roads, and surface water bodies
- Large scaled site map showing all existing on-site wells, proposed wells, surface drainage courses, surface water bodies, buildings, waste handling facilities, utilities, and major physical and man-made features

**B. Drilling Details:**

- On-site supervision of drilling and well installation activities
- Description of drilling equipment and techniques
- Equipment decontamination procedures
- Soil sampling intervals (if appropriate) and logging methods

**C. Monitoring Well Design (in narrative and/or graphic form):**

- Diagram of proposed well construction details

---

*California Environmental Protection Agency*

MONITORING WELL REQUIREMENTS  
CLEANUP AND ABATEMENT ORDER NO. R5-2008-0704  
AUBURN VALLEY COMMUNITY SERVICES DISTRICT AND  
AUBURN COUNTRY CLUB, INC.  
WASTEWATER TREATMENT FACILITY  
PLACER COUNTY

- 2 -

- Borehole diameter
- Casing and screen material, diameter, and centralizer spacing (if needed)
- Type of well caps (bottom cap either screw on or secured with stainless steel screws)
- Anticipated depth of well, length of well casing, and length and position of perforated interval
- Thickness, position and composition of surface seal, sanitary seal, and sand pack
- Anticipated screen slot size and filter pack

D. Well Development (not to be performed until at least 48 hours after sanitary seal placement):

Method of development to be used (i.e., surge, bail, pump, etc.)

Parameters to be monitored during development and record keeping technique

Method of determining when development is complete

Disposal of development water

E. Well Survey (precision of vertical survey data shall be at least 0.01 foot):

Identify the Licensed Land Surveyor or Civil Engineer that will perform the survey

Datum for survey measurements

List well features to be surveyed (i.e. top of casing, horizontal and vertical coordinates, etc.)

F. Schedule for Completion of Work

G. **Appendix: Groundwater Sampling and Analysis Plan (SAP)**

The Groundwater SAP shall be included as an appendix to the workplan, and shall be utilized as a guidance document that is referred to by individuals responsible for conducting groundwater monitoring and sampling activities.

Provide a detailed written description of standard operating procedures for the following:

- Equipment to be used during sampling
- Equipment decontamination procedures
- Water level measurement procedures
- Well purging (include a discussion of procedures to follow if three casing volumes cannot be purged)
- Monitoring and record keeping during water level measurement and well purging (include copies of record keeping logs to be used)
- Purge water disposal
- Analytical methods and required reporting limits
- Sample containers and preservatives
- Sampling
  - General sampling techniques
  - Record keeping during sampling (include copies of record keeping logs to be used)
  - QA/QC samples

- Chain of Custody
- Sample handling and transport

## **SECTION 2 - Monitoring Well Installation Report**

The monitoring well installation report must provide the information listed below. In addition, the report must also clearly identify, describe, and justify any deviations from the approved workplan.

### **A. General Information:**

Purpose of the well installation project

Brief description of local geologic and hydrogeologic conditions encountered during installation of the wells

Number of monitoring wells installed and copies of County Well Construction Permits

Topographic map showing facility location, roads, surface water bodies

Scaled site map showing all previously existing wells, newly installed wells, surface water bodies, buildings, waste handling facilities, utilities, and other major physical and man-made features.

### **B. Drilling Details (in narrative and/or graphic form):**

On-site supervision of drilling and well installation activities

Drilling contractor and driller's name

Description of drilling equipment and techniques

Equipment decontamination procedures

Soil sampling intervals and logging methods

Well boring log

- Well boring number and date drilled
- Borehole diameter and total depth
- Total depth of open hole (same as total depth drilled if no caving or back-grouting occurs)
- Depth to first encountered groundwater and stabilized groundwater depth
- Detailed description of soils encountered, using the Unified Soil Classification System

### **C. Well Construction Details (in narrative and/or graphic form):**

Well construction diagram, including:

- Monitoring well number and date constructed
- Casing and screen material, diameter, and centralizer spacing (if needed)
- Length of well casing, and length and position of perforated interval
- Thickness, position and composition of surface seal, sanitary seal, and sand pack
- Type of well caps (bottom cap either screw on or secured with stainless steel screws)

MONITORING WELL REQUIREMENTS  
CLEANUP AND ABATEMENT ORDER NO. R5-2008-0704  
AUBURN VALLEY COMMUNITY SERVICES DISTRICT AND  
AUBURN COUNTRY CLUB, INC.  
WASTEWATER TREATMENT FACILITY  
PLACER COUNTY

- 4 -

E. Well Development:

Date(s) and method of development

How well development completion was determined

Volume of water purged from well and method of development water disposal

Field notes from well development should be included in report

F. Well Survey (survey the top rim of the well casing with the cap removed):

Identify the coordinate system and datum for survey measurements

Describe the measuring points (i.e. ground surface, top of casing, etc.)

Present the well survey report data in a table

Include the Registered Engineer or Licensed Surveyor's report and field notes in appendix